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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Pagerwork Reduction Act of 1995, no persona are required to reapond to a collection of information unless it displays a valid OMB control number. Application Number 10/702,361 TRANSMITTAL Filing Date November 6, 2003 RECEIVED First Named Inventor FORM CENTRAL FAX CENTER Melissa Lee Menau Art Unit 1615 MAR 2 6 2008 Examiner Name Bethany P. Barham (to be used for all correspondence after initial filing) Attorney Docket Number A01462 Total Number of Pages in This Submission **ENCLOSURES** (Check all that apply) After Allowance Communication to TC 1 Fee Transmittal Form Drawing(s) Appeal Communication to Board Fee Attached Licensing-related Papers of Appeals and Interferences Appeal Communication to TC Petition **Amendment/Reply** (Appeal Notice, Brief, Reply Brief) Petition to Convert to a Proprietary Information After Final Provisional Application Power of Attorney, Revocation Affidavits/declaration(s) Status Letter Change of Correspondence Address Other Enclosure(s) (please identify Terminal Disclaimer Extension of Time Request below): Request for Refund Express Abandonment Request CD, Number of CD(s) Information Disclosure Statement Landscape Table on CD Certified Copy of Priority Remarks Document(s) Reply to Missing Parts/ Incomplete Application Reply to Missing Parts under 37 CFR 1.52 or 1.53 SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT Firm Name Rohm and Haas Company Signature nomas Printed name Thomas D. Rogerson Date Reg. No. March 26 2008 38602 CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facs/mile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature

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March 26, 2008

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Thomas D. Rogerson

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF APPEALS AND INTERFERENCES

APPEAL BRIEF

In re the Application of Mclissa Lee Merlau et al.

Filed November 6, 2003

Serial No. 10/702,361

For

DURABLE HOLD HAIR STYLING COMPOSITIONS AND METHOD OF USE

Thomas D. Rogerson Attorney for Appellants

Bethany P. Barham Examiner

Enclosed: Transmittal Form Fee Transmittal Form

A01462

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Mail Stop Appeal Brief - Patents

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

DN A01462

In re application of:

M. Merlau et. al.

Serial No.:

10/702,361

: Group Art Unit:

1615

Filed:

11/06/2003

: Examiner:

B. P. Barham

For:

Durable Hold Hair Styling Compositions and Method of Use

Mail Stop Appeal Brief Commissioner for Patents P. O. Box 1450 Alexandria, VA 22313-1450 Dear Sir:

APPEAL BRIEF

This is an appeal from the Final Rejection dated September 5, 2007 finally rejecting claims 1 and 7. Claims 1 and 7 are being appealed, claims 8 and 9 having been withdrawn from consideration but subject to rejoinder. The appealed claims are set out in Appendix J. Appellants filed a Notice of Appeal pursuant to 37 C.F.R. § 1.191 on January 28, 2008.

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(C) Real Party In Interest

The owner of the present application and the invention contained therein is ROHM AND HAAS COMPANY.

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(D) Related Appeals, Interferences or Judicial Proceedings

No appeals, interferences or judicial proceedings are known to Appellants, the Appellants' legal representative, or the assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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(E) Status Of Claims

The status of the claims is as follows:

Claims pending: 1 and 7

Allowed claims: none

Claims objected to: none

Claims canceled: 2 through 6

Claims rejected: I and 7

Claims on appeal: I and 7

Claims withdrawn from consideration by the Examiner: 8 and 9.

A01462

(F) Status Of Amendments

No amendments were filed subsequent to Final Rejection.

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(G) Summary of Claimed Subject Matter

- Claim 1. The present invention provides a composition comprising two individual polymers which provides flexibility and durability to a hair style while retaining other beneficial hair fixative properties [Page 2, lines 15-18]:
 - a) a first polymer or polymer mixture with a glass transition temperature ("Tg") from 75° C to 130° C; [Page 3, lines 18-19]
 - b) a second polymer or polymer mixture with a Tg from 20° C to 35°C [Page 3, lines 19-21]; and
 - c) one or more cosmetically acceptable solvents; Page 2, line 22; Page 9, lines
 1-9]
 - wherein when the first polymer or polymer mixture and the second polymer or polymer mixture are dissolved together in a cosmetically acceptable solvent, which may be the same as or different than the solvent in c), and then dried to form a film, the film has a tensile storage modulus at 20° C of from 1x10¹⁰ Pascal to 1x10⁸ Pascal and a storage modulus at 70° C of from 1x10⁹ Pascal to 1x10⁶ Pascal; [Page 2, lines 25-30; Page 5, lines 25-29] and
 - wherein the first polymer and the second polymer are independently selected from block, graft, and branched homopolymers and copolymers derived from one or more monomers [Page 3, lines 25-27] selected from methacrylic acid; acrylic acid; methacrylate esters, acrylate esters, styrene, substituted styrenes, vinyl esters of organic acids, N-vinyl compounds, acrylamide; methacrylamide; substituted acrylamides, amine-functional acrylamides, substituted methacrylamides; hydroxylalkyl methacrylates, hydroxylalkyl acrylates, dienes, vinyl ethers, acid containing monomers, and functional monomers selected from maleic acid, maleic anhydride, fumaric acid, α-methylene glutaric acid, itaconic acid, itaconic anhydride, citraconic acid, mesaconic acid, cyclohexenedicarboxylic acid, 2-acrylamido-2-methylpropanesulfonic acid, monoacryloxyethyl, and water-soluble salts thereof. [Page 3, line31 to Page 4, line14]

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Claim 7. Provides a hair styling composition comprising:

- a) a composition of claim 1; and
- b) one or more cosmetically acceptable solvents; Page 2, line 22; Page 9, lines 1-9] and
- c) one or more cosmetically acceptable ingredients selected from perfumes, dyestuffs, preservatives, sequestering agents, thickeners, silicones, softeners, foam synergistic agents, foam stabilizers, sun filters, peptizing agents, conditioning agents, shine agents, proteins, herbals, botanicals, neutralizers, plasticizers, and anionic, non-ionic, cationic, or amphoteric surfactants, and mixtures thereof. [Page 8, lines 18-23]

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(H) Grounds of Rejection to be Reviewed on Appeal

Claims 1 and 7 are rejected under 35 USC 103(a) as being unpatentable over US 2004/0057923 ('923) or US 2003/0147833 ("833) in that both '923 and '833 teach a reshapable hair styling compositions comprising at least one (meth)acrylic copolymer which comprises: (a) units derived from at least one monomer chosen from buty (meth)acrylate monomers, (b) units derived from at least one monomer chosen from hydroxy alkyl (meth)acrylate monomers, and optionally units derived from at least one monomer other than the (a) and (b) monomers, which would make Applicants' invention obvious to one of ordinary skill in the art at the time the invention was made.

(I) Argument

Regarding Rejection under 35 U.S.C. § 103(a) over US 2004/0057923 ('923) and US 2003/0147833 ('833):

Claims 1 and 7 are rejected under 35 USC 103(a) as being unpatentable over US 2004/0057923 ('923) or 2003/0147833 ('833) in that both '923 and '833 teach reshapable hair styling compositions comprising at least one (meth)acrylic copolymer which comprises: (a) units derived from at least one monomer chosen from butyl (meth)acrylate monomers, (b) units derived from at least one monomer chosen from hydroxy alkyl (meth)acrylate monomers, and optionally units derived from at least one monomer other than the (a) and (b) monomers, which would make Applicants' invention obvious to one of ordinary skill in the art at the time the invention was made.

Because the disclosures of '923 and '833 are so similar, for purposes of this Appeal most of the remarks will reference '923. However, they apply equally well to '833.

The Prior Art Fails to Provide a Motivation to to Produce the Claimed Invention

The inventions disclosed in '923 and '833 require **only** the copolymer described above. That is, one containing the butyl (meth)acrylate and hydroxyalkyl (meth)acrylate monomers. As an option, the copolymer can contain one or more additional copolymerizable monomers. However, these additional monomers are not required. The single polymer exemplified in the cited references does contain three monomers, 2-ethylhexyl acrylate, n-butyl acrylate, and 2-hydroxyethyl methacrylate. all of the examples in '923 have an additional optional polymer in the composition, as described below.

As an option, the '923 compositions may also comprise at least one constituent "known in the cosmetic arts that does not substantially interfere with the reshaapable properties of the at least one (meth)acrylic copolymer." (see '923, page 5 [0050] and '833, page 4 [0043]) These optional constituents comprise a huge variety of polymers

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and copolymers (see '923, pages 5-14), as well as almost any material known to be useful in a hair styling compositions. This listing of additional polymers and copolymers goes on for nine pages. It includes anionic, cationic, amphoteric, and nonionic polymers and combinations thereof. In its broadest reading, this listing likely includes virtually every known polymer which could be used in a hair styling composition. The Official Action points out a number of these optional polymers as being within the Tg range claimed by Applicants for their "first polymer". That is, from 75 to 130 deg. C. However, there is no disclosure, teaching, or suggestion in this huge, nine page list of polymers and copolymers that any one will have an advantage over any other for use in Applicants' claimed compositions, or, for that matter, for use in any of the compositions claimed in '923 or '833. There is no disclosure, teaching, or suggestion of the high Tg range claimed by Applicants as being particularly useful, only that the '923 and '833 compositions can contain the optional additional polymer. Furthermore, the only examples of the use of such optional polymers are disclosed in '923 Example 7, Formulations A-E which disclose the use of quaternary ammonium salt polymers (Merquat™ 100 and 500, and Salcare™ SC95). In addition, there are no data, no teachings, and no disclosures in either '923 or '833 showing that there is any difference in the performance of the claimed reshapable compositions with or without the addition of the higher Tg polymer to the claimed (meth)acrylic copolymers. Therefore, there is no disclosure, teaching, or suggestion in '923 or '833 which would motivate one skilled in the art to add higher Tg polymers (i.e. first polymer) to Applicants' second polymer with the expectation of achieving an improved composition.

As importantly, however, are the suggestions, teachings, and disclosures of '923 and '833 which relate to the <u>required</u> (meth)acrylic copolymer. '923 and '833 teach that this copolymer should have a low Tg. It is Applicants position that the low Tg is required in order for the compositions claimed in '923 and '833 to be reshapable. That is, the copolymer must be tacky. The only embodiment which specifies a Tg range is found in '923 on page 5 [0045] and '833, page 4, [0038] and specifies a Tg range of -100 deg. C. to +15 deg. C. This is significantly below the Tg range specified in Applicants' claims of +20 deg. C. to +35 deg. C for their "second polymer". Furthermore, in '923, the one

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working example of the (meth)acrylic polymer, Example 1, provides for a 2-ethyl hexyl acrylate (EIIA), n-butyl acrylate (BA), 2-hydroxy ethyl methacrylate (HEMA) copolymer in the ratio of 60/35/5. Using the Fox equation: 1/Tg(polymer) = 1/Tg(monomer 1) + 1/Tg(monomer 2) + 1/Tg(monomer3) and the standard Tg values of -85 for EHA, -54 for BA, and +55 for HEMA, one can calculate the Tg of the polymer of Example 1 of '923 as being -70 deg. C. Thus, one of ordinary skill in the art familiar with '923 and '833 would be motivated to use a low Tg copolymer to prepare the claimed compositions, not polymers with a Tg in the claimed range of Applicants' second polymer.

The Examiner correctly points out that '923 and '833 do not teach Applicants' copolymer with a Tg of 20-35 deg. C, but they do teach, in claim 20, a Tg from about -100 deg. C to +15 deg. C. The Examiner then states that it would have been obvious to one of ordinary skill in the art to look to '923 and '833 for the composition and then to optimize the Tg ranges (citing MPEP 2144.05). However, Applicants have shown that there is a significant difference between the Tg range disclosed in '923 and '833 and Applicants' claimed second polymer Tg range. As noted above, one skilled in the art would look to the examples provided in the cited reference and conclude that to optimize the Tg range one should look to low Tg polymers (e.g. in the range of -70 deg. C.).

Applicants have indicated in the Specification, page 1, line 31 to page 2, line 2, that low Tg polymers have a benefit (not brittle so they do not fracture when stressed). But that they also have the disadvantage of being tacky and lack toughness. These disadvantages are overcome in Applicants' claimed compositions (see Tables 3-4 and 6-7). In addition, Applicants' have provided data which clearly shows that low Tg polymers are not acceptable in Applicants' claimed compositions. See Table 6, examples 16d and 18d in particular, when compared with the Tg of example 17d, which is within Applicants' claimed range. Example 17d has better overall properties. However, in all these examples, the low Tg polymer alone provided unacceptable film properties - Toughness and Tackiness. In addition, the high Tg polymers alone also had unacceptable film properties - Flexibility, when used alone. It is only in the combinations of Applicants' second polymers with the claimed high Tg polymers (first polymers) that

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Applicants' compositions provide acceptable film properties (see Tables 3 and 4). Also, the data in Tables 3 and 4 demonstrate the uniqueness of the Tg range of Applicants' claimed second polymer. For example, in Table 3, examples 4a and 5a show that a low Tg second polymer has properties (toughness) that are less acceptable than when the Tg of the second polymer is within Applicants' claimed range (example 5a). Likewise, examples 3b and 4b in Table 4 show a similar pattern (although examples 7b and 8b do not show this pattern).

It is clear from Applicants' data presented in Tables 3-4, when it is compared with the data in Table 6, that the combination of Applicants' first polymer with the second polymer results in a profound change in the film properties obtained compared to the film properties one would obtain using the second polymer alone. Both '923 and '833 indicate that the "reshapability" of hair treated with the compositions disclosed in '923 and '833 is a function of the film properties of those compositions. As noted above, both '923 and '833 state that the composition of the (meth)acrylic copolymer may further comprise at least one constituent known in the cosmetic arts that "does not substantially interfere with the reshapable properties" of the (meth)acryic copolymer. This statement teaches away from Applicants' claimed composition because it is clear that the addition of the first polymer to Applicants' second polymer does, in fact, markedly change the film properties of the polymers making up the composition. Furthermore, neither '923 nor '833 provide any direction on how to determine if an optional polymer substantially interferes with the reshapable properties, or even what is a "substantial interference".

CONCLUSION

Based on the foregoing, Appellants respectfully submit that the disclosures of the cited references '923 and '833, which teach compositions comprising a low Tg (-100 to +15 deg. C.) copolymer of butyl (meth)acrylic and hydoxy alkyl (meth)acrylic monomers, and optionally additional monomers, and into which one could add virtually any other component known to be useful in hair styling compositions, including other

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polymers, one skilled in the art would not be motivated to prepare the compositions of Applicant's invention. As a result, the pending claims are currently in condition for allowance. Appellants respectfully request the Board to pass the pending claims to allowance.

Enclosed herewith, Appellants have filed a Certificate of Mailing to establish the timely filing of this Appeal Brief.

The Commissioner is hereby authorized to charge any additional fee which may be required, or to credit any overpayments to Deposit Account 18-1850.

Respectfully submitted,

Thomas D. Rogerson

Thomas D. Rogerson Attorney for Applicants

Registration No. 38,602 Telephone: 215-619-1569

Patent Department, 7th Floor Rohm and Haas Company 100 Independence Mall West Philadelphia, PA 19106-2399

Date: March 26, 2008

10/702,361 A01462

(J) Claims Appendix

- 1. (Previously Presented) A composition comprising:
 - a) a first polymer or polymer mixture with a glass transition temperature ("Tg") from 75° C to 130° C:
 - b) a second polymer or polymer mixture with a Tg from 20° C to 35°C; and
 - c) one or more cosmetically acceptable solvents:

wherein when the first polymer or polymer mixture and the second polymer or polymer mixture are dissolved together in a cosmetically acceptable solvent, which may be the same as or different than the solvent in c), and then dried to form a film, the film has a tensile storage modulus at 20° C of from 1x10¹⁰ Pascal to 1x10⁸ Pascal and a storage modulus at 70° C of from 1x10⁹ Pascal to 1x10⁶ Pascal; and

wherein the first polymer and the second polymer are independently selected from block, graft, and branched homopolymers and copolymers derived from one or more monomers selected from methacrylic acid; acrylic acid; methacrylate esters, acrylate esters, styrene, substituted styrenes, vinyl esters of organic acids, N-vinyl compounds, acrylamide; methacrylamide; substituted acrylamides, amine-functional acrylamides, substituted methacrylamides; hydroxylalkyl methacrylates, hydroxylalkyl acrylates, dienes, vinyl ethers, acid containing monomers, and functional monomers selected from maleic acid, maleic anhydride, fumaric acid, α-methylene glutaric acid, itaconic acid, itaconic acid, itaconic anhydride, citraconic acid, mesaconic acid, cyclohexenedicarboxylic acid, 2-acrylamido-2-methylpropanesulfonic acid, monoacryloxyethyl, and water-soluble salts thereof.

- 2. (Canceled)
- 3. (Canceled).
- 4. (Canceled).
- 5. (Canceled)
- 6. (Canceled)

10/702,361 A01462

- 7. (Previously Presented) A hair styling composition comprising:
 - a) a composition of claim 1; and
 - b) one or more cosmetically acceptable solvents; and
 - c) one or more cosmetically acceptable ingredients selected from perfumes, dyestuffs, preservatives, sequestering agents, thickeners, silicones, softeners, foam synergistic agents, foam stabilizers, sun filters, peptizing agents, conditioning agents, shine agents, proteins, herbals, botanicals, neutralizers, plasticizers, and anionic, non-ionic, cationic, or amphoteric surfactants, and mixtures thereof.
- 8. (Withdrawn) A method for styling hair comprising the steps of:
 - a) applying to the hair an effective styling amount of a composition comprising:
 - i) a first polymer or polymer mixture with a glass transition temperature ("Tg") from 75° C to 130° C;
 - ii) a second polymer or polymer mixture with a Tg from 20° C to 35°C; and
 - iii) one or more cosmetically acceptable solvents;
 - wherein when the first polymer or polymer mixture and the second polymer or polymer mixture are dissolved together in a cosmetically acceptable solvent, which may be the same as or different than the solvent in c), and then dried to form a film, the film has a tensile storage modulus at 20° C of from 1x10¹⁰ Pascal to 1x10⁸ Pascal and a storage modulus at 70° C of from 1x10⁹ Pascal to 1x10⁶ Pascal; and
 - wherein the first polymer and the second polymer are independently selected from block, graft, and branched homopolymers and copolymers derived from one or more monomers selected from methacrylic acid; acrylic acid; methacrylate esters, acrylate esters, styrene, substituted styrenes, vinyl esters of organic acids, N-vinyl compounds, acrylamide; methacrylamide; substituted acrylamides, amine-functional acrylamides, substituted methacrylamides; hydroxylalkyl methacrylates, hydroxylalkyl acrylates, dienes, vinyl ethers, acid containing monomers, and functional monomers selected from maleic acid, maleic anhydride, fumaric acid, α-methylene glutaric acid, itaconic acid,

itaconic anhydride, citraconic acid, mesaconic acid, cyclohexenedicarboxylic acid, 2-acrylamido-2-methylpropanesulfonic acid, monoacryloxyethyl, and water-soluble salts thereof.

- b) fixing the hair in a desired configuration.
- 9. (Withdrawn) A method for styling hair comprising the steps of:
 - a) fixing the hair in a desired configuration; and
 - b) applying to the hair an effective styling amount of a composition comprising:
 - i) a first polymer or polymer mixture with a glass transition temperature ("Tg") from 75° C to 130° C;
 - ii) a second polymer or polymer mixture with a Tg from 20° C to 35°C; and
 - iii) one or more cosmetically acceptable solvents;
 - wherein when the first polymer or polymer mixture and the second polymer or polymer mixture are dissolved together in a cosmetically acceptable solvent, which may be the same as or different than the solvent in c), and then dried to form a film, the film has a tensile storage modulus at 20° C of from 1x10¹⁰ Pascal to 1x10⁸ Pascal and a storage modulus at 70° C of from 1x10⁹ Pascal to 1x10⁶ Pascal; and
 - wherein the first polymer and the second polymer are independently selected from block, graft, and branched homopolymers and copolymers derived from one or more monomers selected from methacrylic acid; acrylic acid; methacrylate esters, acrylate esters, styrene, substituted styrenes, vinyl esters of organic acids, N-vinyl compounds, acrylamide; methacrylamide; substituted acrylamides, amine-functional acrylamides, substituted methacrylamides; hydroxylalkyl methacrylates, hydroxylalkyl acrylates, dienes, vinyl ethers, acid containing monomers, and functional monomers selected from maleic acid, maleic anhydride, fumaric acid, α-methylene glutaric acid, itaconic acid, itaconic acid, itaconic anhydride, citraconic acid, mesaconic acid, cyclohexenedicarboxylic acid, 2-acrylamido-2-methylpropanesulfonic acid, monoacryloxyethyl, and water-soluble salts thereof.

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(K) Evidence Appendix

No evidence was submitted during prosecution.

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(L) Related Proceedings Appendix

There are no related proceedings.